LIMITED WARRANTEE

Smoke Signal Broadcasting guarantees (to the original purchaser) its disk system hardware for a period of 90 days from date of purchase. Smoke Signal Broadcasting will, at its option, repair or replace any disk system with a hardware defect returned to it postpaid within 90 days from date of purchase, provided that, in its opinion, the defect was not caused by improper handling or improper connection to the host computer or a malfunction of the host computer. Shipping charges for return of the repaired unit to the purchaser shall be paid be Smoke Signal Broadcasting. The liability of Smoke Signal Broadcasting is specifically limited to repair or replacement of the hardware and shall not extend to consequential or incidental damages suffered by the user; nor, shall Smoke Signal Broadcasting be liable for any representation as to the suitability of the its disk systems to any particular user application unless such representation is in writing and signed by an officer of Smoke Signal Broadcasting.

In the event of a problem during the warrantee period:

1) We suggest that you call first and explain your problem. Technical personnel are available from 9 AM to 5 PM local California time at (213) 889-9340. Many times problems can be solved quickly over the phone, thus, saving you time.

2) If it is necessary to return your unit for repair, send it to:

> Smoke Signal Broadcasting 31336 Via Colinas Westlake Village, CA 91361

3) Be sure that the unit is packed adequately and that a brief explanation of the problem is enclosed with the unit.

4) Be sure to include your return address and a phone number where you can be reached during business hours.

Some states do not permit the limitation or exclusion of incidental or consequential damages. In those states this limited warrantee is not valid and the system is sold AS IS. See our repair policy.

While in the interest of good customer relations, Smoke Signal Broadcasting will attempt to correct any software errors brought to its attention, the software is provided AS IS without warrantee.

This warrantee is in lieu of all other warrantees expressed or implied.

REPAIR POLICY

In most cases, repairs will be made within 7 days of receipt. No charge will normally be made for repairs to units returned to us within 90 days of purchase even in states where the limited warrantee does not apply. This should be construed only as a statement of policy and not as a guarantee or legal obligation to make such repairs.

After 90 days from date of purchase, repairs will be made according to a flat rate repair schedule unless the unit has been subject to physical damage or connected to improper voltages. The current charge for repairs to a disk system is \$95.00. You pay the shipping charges to us, we pay the return charges. If outside the United States, these provisions do not apply and you should contact us for instructions. Generally, you will be referred to a repair facility in your country since customs clearance charges run about \$100. This is in addition to shipping charges.

SOFTWARE LICENSE

The purchaser of a disk system purchases, in addition to the hardware, a license for the limited use of the DOS-68 software supplied with the system. This license allows the purchaser to use the software on any disk system manufactured by Smoke Signal Broadcasting and to make copies of the software for use on any disk system manufactured by Smoke Signal Broadcasting. Use of the software on any other disk system or the copying of the software for any other use is a violation of this license unless specific written approval for other uses has been obtained from an officer of Smoke Signal Broadcasting.

USER GROUP INFORMATION

Smoke Signal Broadcasting operates a 6800 program users group. Purchase of a SSB disk system and return of the warrantee registration form entitles the user to a one year membership to the users group. the purpose of the group is to provide a low-cost program exchange service to group members. We do not intend the users group to become a profit center for Smoke Signal Broadcasting, however, we will attempt to recover the direct expenses of program duplication, advertising of the user's group and of employees assigned to user group projects.

To help us meet the goal of a low cost program exchange service, we would appreciate the contribution of all types of programs for 6800 based systems - not necessarily disk based systems.

We are particularly interested in additional transient commands for our disk systems. If everyone will share with us the programs they have created to make the operation of their disk system more convenient to them, it will quickly enhance the value of all our systems.

It is hoped that shorter programs, 500 bytes or so, will be contributed without charge. For longer programs, where the contributor needs to recover some of his development costs, a royalty will be paid. Large general purpose programs (BASIC, FORTRAN, editors, etc) will be extensively advertised to insure wide distribution, low cost to the user, and reasonable compensation to the program author.

We believe that the SSB disk systems are by far the best disk systems available to the microcomputer user today. Your support of the users group will enable us to provide evolutionary changes to the system that will keep it the leader in microcomputer disk systems.

APPENDIX A

DOS68 VERSION 5 MEMORY MAP

\$6080 - \$69FF	DFM program area
\$6A00 - \$6D7F	DOS monitor program area
\$6080 - \$727F	Transient Command Area (TCA)
\$7280 - \$777F	Monitor program area
\$7780 - \$7FFF	DFM program area
\$7F80 - \$7FFF	I/O buffer for ROM boot routine
\$3E00 - \$3FFF	EXECute program area. Used only when the EXEC function is activated.
\$0000 - \$5FFF	Is assumed to be user area when not used by the following commands.
\$0100 - \$3FFF	Is used by the "COPY" command
\$0100 - \$02FF	Is used by "SAVET" program
\$0100 - \$3FFF	Is used by "FORMAT" command

BFD/LFD/CHIEFTAIN BOOT ENTRY POINTS

	DOS68 DOS68	<pre>cold start boot entry - BFD/LFD cold start boot entry - CHIEFTAIN</pre>
•	\$A07F \$A079	ROM temporary table

MONITOR ENTRY POINTS

ENTRY ADDR	ENTRY NAME	FUNCTION:
\$7280 \$7283 \$7286 \$7289 \$728C	ZCOLDS ZWARMS ZOUTEE ZINCH ZMON	Monitor cold start Monitor warm start Character output routine Character input routine JMP to RCM monitor
\$7291 \$7294 \$7297 \$729A \$729D \$72A0 \$72A3 \$72A6	ZFLSPC ZGCHAR ZGNCHR ZANCHK ZDIE ZGETHN ZADDX ZOUTST	Get a file specification Get current character from the line buffer Get the next character from the line buffer Check for alphanumeric Print command string, error message, and exit Get a hex value from the line buffer Add the B register to the index Print a string
\$72A9 \$72AC \$72AF \$72B5 \$72B8 \$72BB \$72BE \$72C1	ZTYPDE ZOUTHX ZOUTHA ZLINEI ZLP ZPEEK ZOUTCH ZPUTCH	Type the disk error message Print a byte in hex Print an address in hex Input edited line from the terminal FORTRAN Line printer output vector Peek ahead at next char. in line buffer. User alterable output vector. Directed output vector.
\$72C4 \$72C7 \$72CA \$72CD \$72D0 \$72D3 \$72D9 \$72DC \$72DF	ZGETCH ZSTAT ZRESTR DCMDLN ZEXCMD ZLOAD ZNAMEJ ZCRLF ZSTEXT	Input directed vector. Terminal input status Restore I/O vectors Call DO processor. Execute command LOAD - File loader Decode name and jump. Print carriage return and line feed Enter user default file extension.
•		

DOS68 PARAMETER TABLE

YMONV EQU PARTBL+\$00	DISK MONITOR VERSION
YMEMAX EQU PARTBL+\$02	USER MEMORY LIMIT
YLINAD EQU PARTBL+\$04	LINE BUFFER ADDRESS
YLINPT EQU PARTBL+\$06	LINE BUFFER RESET ADDR
YBSCHR EQU PARTBL+\$08	BACKSPACE CHARACTER
YDLINE EQU PARTBL+\$09	DELETE LINE CHARACTER
YLPAUS EQU PARTBL+\$0A	LINE PAUSE CHAR
YLCONT EQU PARTBL+\$0B	LINE PAUSE RESUME
YABORT EQU PARTBL+\$0C	ABORT CHARACTER
YABRTV EQU PARTBL+\$0D	ABORT VECTOR ADDRESS
ZHCINT EQU PARTBL+\$0F	HARD COPY INITIALIZE
ZHCOUT EQU PARTBL+\$12	HARD COPY CHAR OUTPUT
YECHOC EQU PARTBL+\$15	MONITOR ECHO CONTROL ADR
YCPORT EQU PARTBL+\$17	CONTROL I/O PORT 0=DISABLED
YPPORT EQU PARTBL+\$19	PRINTER I/O PORT 0=DISABLED
YDEPTH EQU PARTBL+\$1B	LINES/PAGE
YWIDTH EQU PARTBL+\$1C	CHARACTERS/LINE
YNULLS EQU PARTBL+\$1D	CR/LF NULLS
YHCFLG EQU PARTBL+\$1E	HARD-COPY ENABLE
YEJECT EQU PARTBL+\$1F	BLANK LINES END OF PAGE
YPPPAS EQU PARTBL+\$20	POST PAGE-PAUSE, 0=ON.0=OFF
YSYSDR EQU PARTBL+\$21	SYSTEM DRIVE NUMBER
YWRKDR EQU PARTBL+\$22	WORK DRIVE NUMBER
YCLINE EQU PARTBL+\$23	CURRENT LINE NUMBER
YCCOL EQU PARTBL+\$24	CURRENT CHAR POSITION/COLUMN
YUCSWT EQU PARTBL+\$25	UPPER CASE SHIFT LOCK 0=>NOT UC
YOSWT EQU PARTBL+\$26	OUTPUT CONTROL SWITCH
YDCMDA EQU PARTBL+\$27	DO COMMAND PROCESSOR ACTIVE
YERSWT EQU PARTBL+\$28	SYSTEM ERROR SWITCH
YCFLG EQU PARTBL+\$29	COMMAND LOAD FLAG
YLOADE EQU PARTBL+\$2A	LOAD ERROR FLAG
YTAFLG EQU PARTBL+\$2B	VALID TRANSFER ADDRESS FLAG
YTADDR EQU PARTBL+\$2C	TRANSFER ADDRESS
YOFSET EQU PARTBL+\$2E	OFFSET FOR FILE LOAD
YDATE EQU PARTBL+\$30	SYSTEM DATE STRING
YTIME EQU PARTBL+\$40	SYSTEM TIME STRING
EXTTBL EQU PARTBL+\$62	FILE EXTENSION TABLE

APPENDIX D

DOS68 COMMAND ERROR MESSAGES

DOS68 prints only its prompt character unless an error condition occurs. The following are error messages which can be generated by DOS68:

- "CMD NOT FOUND" DOS68 could not find the command as being memory resident or disk resident.
- "?" DOS68 does not understand the format of the command entered. Try again.
- "ILL FILE NAME" A file name was entered incorrectly. Try typing the line again.
- "NOT HEX NUM" An invalid digit was encountered in a hexadecimal number. Check the value and try again.
- "NO TA" No transfer address was found on the transient command or the file to be RUN. The file was loaded but DOS68 does not know where to begin execution.
- "CS ERR: XXXX" A checksum error has occured during the reading of a binary file. XXXX is the address of the object record being loaded. The file has been written on (most likely by someone trying to patch the file). The file should be deleted and replaced with a backup copy.
- "CLOSE ERR: XXXX" DOS68 has attempted to close a file left open by some program but the information in the File Control Block (FCB) needed to determine how to close the file is not valid, thus DFM68 cannot close the file. This is usually caused by a program corrupting the contents of the FCB. The only cure for this error is to re-boot DOS68. This is because part of DOS68 may also have been corrupted by the offending program.
- "DISC ERR: XX" A Disk File Manager (DFM) error has occurred. XX is the DFM error code indicating the nature of the error. Refer to the ERROR CODES in the DFM Programming Tables to interpret the error code.

APPENDIX E

DFM PROGRAMMING TABLES

DFM ENTRY POINTS

FUNCTION	NAME	ADDRESS	PER DOS68	ORG
DOS BASE	ADDRESS	\$6000	\$A000	\$C000
OPEN DFM DFM I/O CLOSE DFM	ODFM DFM CFDM	\$7780 \$7786 \$7783	\$B780 \$B786 \$B783	\$D780 \$D786 \$D783

DFM FUNCTION CODES

CODE NUMBER	CODE NAME	DEFINITION
NUMBER 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	QFREE QSO 4W QSWRIT QSWC QSO 4R QSREAD QSRC QDEL QREN QAPP QDIRI QDIRT (reserved) QRAFC (reserved) (reserved) QLOGD QLOGE QSSR QSSR QCRF QORF QPRF	* Report free space on disk * Open a sequential file for write * Write data to sequential file * Close a sequential file for write * Open a sequential file for read * Read data from sequential file * Close a sequential file for read Delete a file Rename a file Append two files * Open a disk directory * Retrieve a file name from the directory * Read active FCB chain * Log in a system disk * Examine logged drive number * Single sector read * Single sector write Create random access file Open random access file * Position random access file * Read from random access file * Write to random access file * Write to random access file Close random access file
26 27 28	(reserved) (reserved) QERF	Expand random access file

^{*} means the function processor is memory resident

DFM PROGRAMMING TABLES, cont

The disk resident functions are located in 2 system files. overlay files. These files must exist on the system disk for the disk resident DFM functions to be executed.

DFM OVERLAY FILE	FUNCTIONS:
DFM680.??2	QDEL, QREN, QAPP
DFM680.??3	QCRF, QORF, QCLSRF, QERF

Where ?? represents the revision number of DFM

DFM ERROR CODES

ERROR	ERROR	
NO.	NAME	EXPLANATION
\$01	EIFC	Invalid DFM function code
\$02	EFE	File already exists
\$03	EFIB	Master file directory error
\$04	EFB	File in use
\$05	ENSF	File not found
\$06	EEOF	End of file
\$07	EDF	Disk full
\$08	EIFN	Invalid FCB address
\$09	EIFN	Illegal file name ·
\$ 0A	EFS	File status error
\$0B	EITS	Invalid track or sector number o
\$ 0C	EIUN	Illegal unit no.
\$0D		Unused, better left alone
\$0E	EDR	Disc read error
\$0F	EDW	Disc write error
\$10	EIFT	Illegal file type
	ENER	Not enough room to create file
\$12	EWP	File is write protected
\$13	EDP	File is delete protected
\$14	EFSE	Random file size error (size=0 or too big)
\$15	EDWP	Disk is write protected
\$20	ENSD	Non-system disk in logged drive
\$21	ESFF	System file format error (should not occur)
\$22	ECSS	Checksum error on system file

DFM PROGRAMMING TABLES, cont

DOS68 CLOSE ERROR CODES

Olxx	Illegal file activity. The file is not open for sequential read, write, or random accessing.
02XX	Unused.
03XX	File closing error - XX = DFM error code.
04XX	Read error on free chain descriptor. XX = 1771 Controller error status.
05XX	Write error on free chain descriptor. XX = 1771 Controller error status.

The following table enumerates the file type codes. These are the only valid file type codes which can appear in the lower four bits of the file type (XFT) in FCB's and FIB's.

FILE TYPE CODES

VALUE	TYPE
1	Sequential compresses ASCII data.
2	Binary sequential.
3	(reserved)
4	Byte mode random access.
5	Record mode random access.
6-7	(reserved)
8-15	(unused)
	1 2 3 4 5 6-7

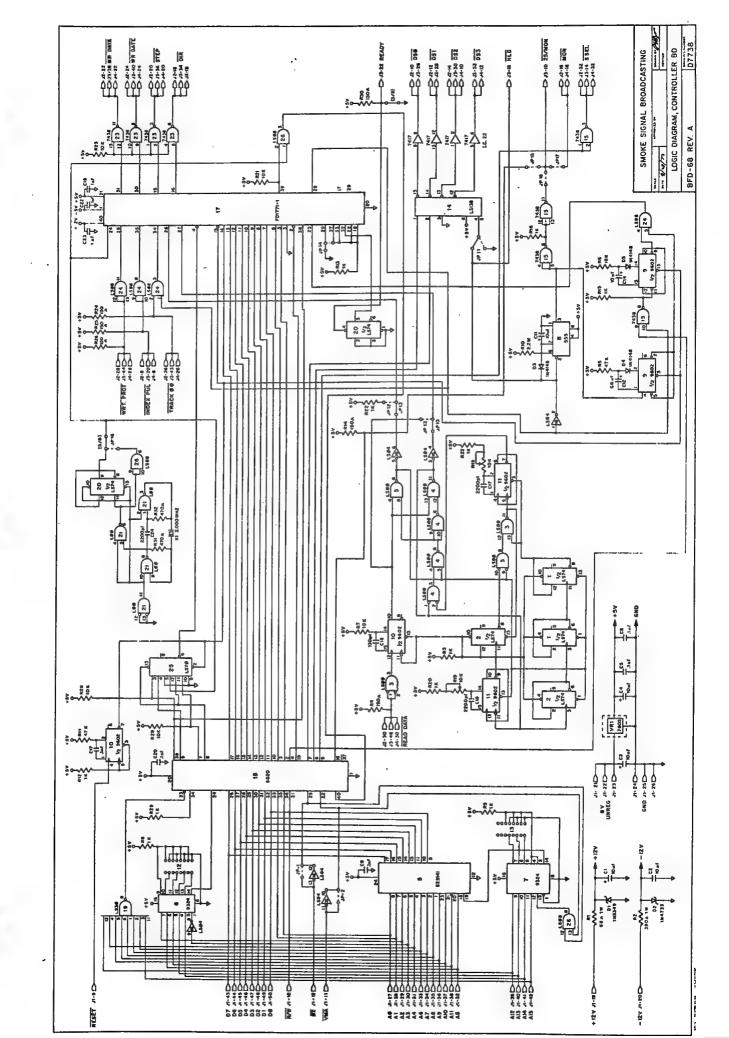
The following table enumerates the file status codes. These are the only valid status codes which can appear in the lower four bits of the file status (XFS) in both FCB's and FIB's.

FILE STATUS CODES

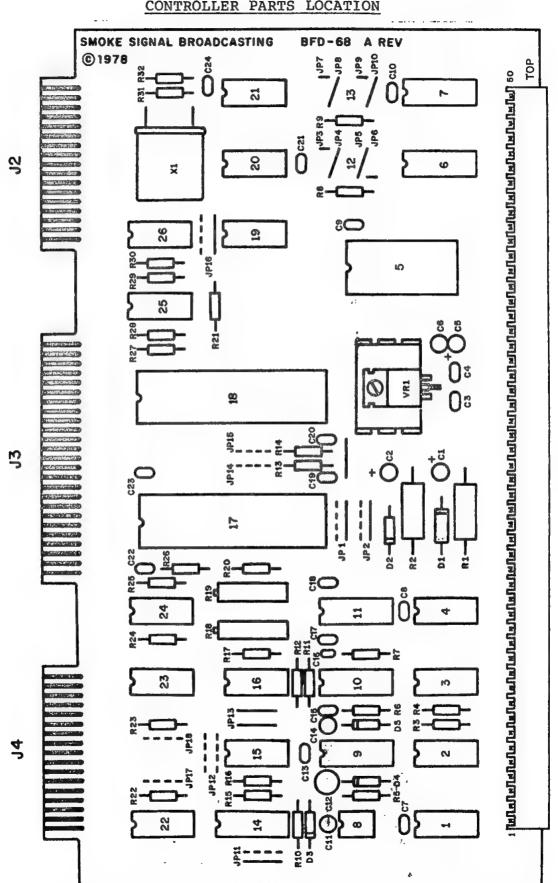
NAME	VALUE	TYPE
FANA	0	Not active
FASR	1	Sequential read status.
FASW	2	Sequential write status.
FARA	3	Random access status.

EXTENSION TYPE CODES

TYPE	INITIAL DEFINITION	USE
0	BIN	Default extension for Binary binary object files created by the Assembler.
1	TXT	Default extension for Editor files and Assembler input files.
2	SRC	A source file.
3	BAS	A BASIC program
4	CTL	Default extension for control or procedure files that are processed by EXEC, and procedure files that are created by BUILD.
5	BAK	Reserved extension to be used only by the Editor for generating backup files.
6	DAT	A data file.
7	FOR	A FORTRAN program.
8	TMP	Reserved extension to be used only by the Editor for naming temporary work files.
9	1 1	Spare - user definable.



CONTROLLER PARTS LOCATION



1



48II CALLE ALTO CAMARILLO, CALIF. 93010

(805) 484-2851

Information contained;

Schematic Parts List

Specifications Outline and Mounting General User Information MODEL.

FCBB - 90W

APPLICATION DATA ŏ 4

90

SPECIFICATIONS

AC Input:

115/230 vac ± 10% 47-440 Hz.

DC Output.

(Dergte output current 10% for 50Hz Operation.) Refer to Voltage/Current Rating Chart. Voltage

adjustable ±5% minimum.

Input Fusing: Line Regulation: Load Regulation:

Refer to AC Connection Table. ±0.05% for 10% input change. ±0.05% for 50% load change.

Output Ripple: Transient Reponse: 3.0mv Pk-Pk maximum, 0.4mv RMS. 30µ seconds for 50% load change.

Short Circuit and

Overload Protection:

Automatic current limit/foldback.

Reverse Voltage

Protection:

Provided on Dual and Triple output units.

Remote Sensing:

Provided on outputs above 15watts, open sense

lead protection built-in.

Stability:

±0.05% for 24hours after warm-up.

Temperature Rating:

0°C to 50°C full rated, derated linearly to 40%

at 70°C.

Temperature Coefficient: ±0.02%/°C maximum, 0.002%/°C typical.

Cooling

Units are full rated 50°C in free air, must be derated or fan cooled when mounted in

confined area.

fficiency:

5V units-45%, 12 and 15V units - 55%, 20 and 24V units - 60% at nominal input, full load on

Vibration:

Per Mil-Std-810B, Method 514, Procedure 1.

curve AB (to 50Hz).

Shock:

Per Mil-Std-8IOB, Method 516, Procedure V.

115 VAC	230 VAC			
183,284	283			
184	184			
3.0 AMPS	1.5 AMPS			
	183,284			

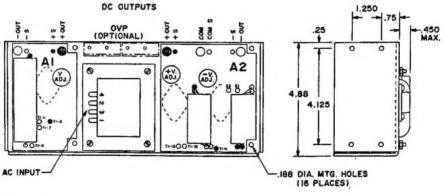
VOLTAGE/CURRENT RATING CHART

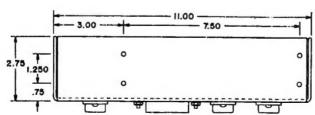
AC CONNECTION TABLE

MODEL	OUTPUT RATING
FCBB - 90W	24V. AT 3.0A.(3.5Pk)
	+5V. AT 3.0A.W/OVP OVP SET AT 6.2±.4V.
	-5V. AT I.OA.W/OVP OVP SET AT 6.2 ± .4V.

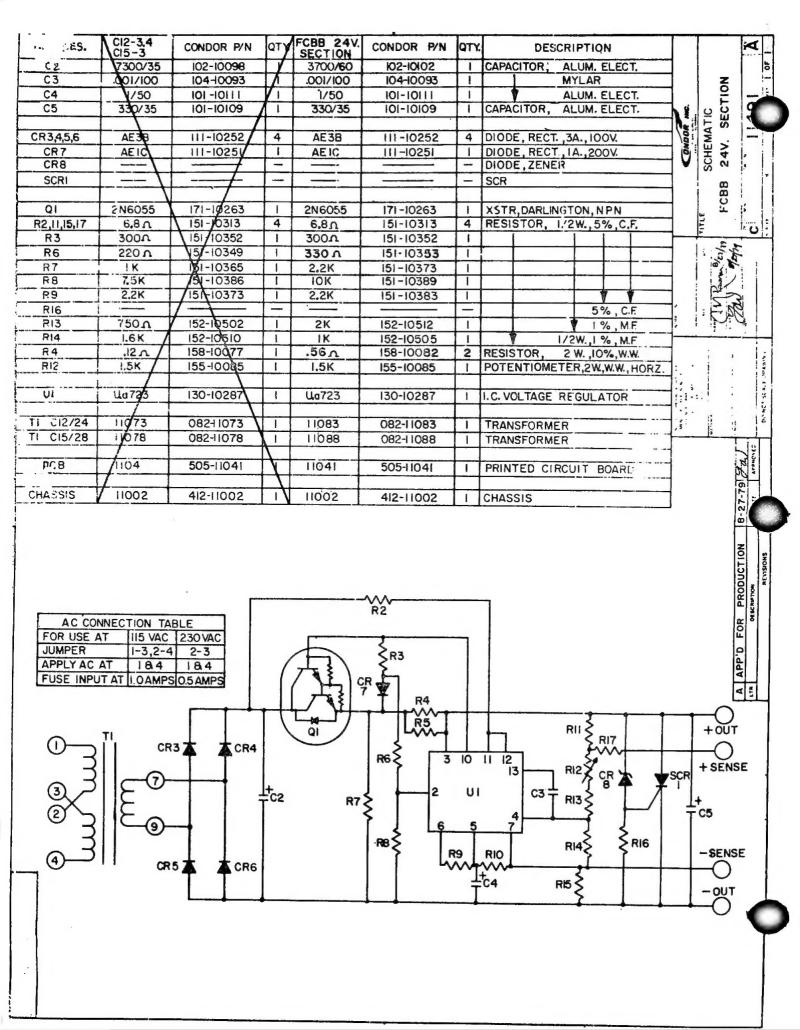
2 YEAR GUARANTEE

CONDOR will repair or replace any power supply of its manufacture that does not perform to published specifications as a result of defective materials or workmanship for a period of 2 years from date of original purchase. No other obligations or liabilities are implied or expressed. Returns must be freight prepaid.





CBB CASE UNIT WEIGHT: 8 ths.



REF. DES.	BB5-3/0VP	CONDOR P/N	OTY.	CC5-6/0VP	CONDOR P/N	QTY.	DESCRIPTION		Δ	id
C2,10	220/16	101-10107	2	220/16	101-10107	2	CAPACITOR, ALUM, ELECT.			
CB	9000/16	102-10097	i	9000/16	102-10097	-	CHEMILION, ALUM, ELECT.	2.2	=	
C9	-		=	9000/16	102-10097		ALUM., ELECT.	- E	4	ی ا د
							ALUM., ELECT.	133	ATIC	1506
C4	.001/100	104-10093	1	.001/100	104-10093		CAPACITOR , MYLAR	Committee Could		
							STACTOR THE LAND	13	N C	5
CR4,6,13	IN4003	111-10251	3	184003	111-10251	3	DIODE RECT., 200V. IA.	1	S é	: 1
CR12,14	1N5401	111-10252	2	MR750	111-10256	2	100V, 3A./ 50V. 22A	1/8	SC -3/0VP	
								15	M	j
			-						885) [
CR 2	IN752A	112-10006		1N752A	112-10006	1	PECT.	1		10
SCR 2	S0303LS3	160-10258	-	S0506L\$3	160-10013	1	SCR 30V. 3A / 50V. BA.			1.1
					***			1		1.4
QI	2149055	171-10263	_	2N6055	171-10263	-	XSTR., DARLINGTON .NPN	1		7.1
92	2NG055	171-10263		2N6055	171-10263	1	XSTR., DARLINGTON, NPN	-	3 3	1
Q3							XSTR., POWER	8	124	3
								1		17.
R2,35,36	1800	131-10347	3	1601	151-10347	3	RESISTOR, 1/2W., 5% , C.F.	-		+
R4	47.0	151-10333		47n	151-10333			1		
R25,24	2.2K	151-10373	2	2.2K	151-10373	2	4 4 4	1		1
R25	4.7K	151-10301		4,7K	151-10301			1		9
R26	4701	151-10337		470A	151-10337	1]		TOOLG TON 9-4-78
	+	151-			151-	-		1		ė
	1	151-			131-			ł		
		151-			151 -			1		0
		151-			151-			ł		2
		151-			191 -			ł		8,
		151-			151-		5 % , C.F.	1		
RIO	1.6K	152-10510		1.8K	152-10510		1%,M.F.	1		
	1	152-			152-		1/2W. 1% , M.F.	1		2
833	130	158-10077		120	150-10077		2 W., 10%, W.W.	1		0
R34 R12		158-	-	0.81.	158-10077	1	RESISTOR, 2 W.,10%, W.W.	ļ		0.04
n ig	1.5 K	155-10085	. 1	1.5 K	155 -10085	1	POTENTIOMETER, 2 W., W.W., HORZ.			4
115	Ua 723	130-10287	1	· Ua723	130-10287		LC. VOLTAGE REGULATOR			17151.
rı	11386	062-11388	-	11393	082-11393	-	TRANSFORMER, POWER			
РСВ	11386	505-11396		11306	505-11386		PRINTED CIRCUIT BOARD			
							THE STREET BOARD			
CHASSIS	11007	412-11007		11008	412-11008		CHASSIS, ALUMINUM			

PRODUCTION NOTES:

I.) SCR 2 TO BE HEATSINFED ON CC512 ONLY

